

**United States of America  
FEDERAL COMMUNICATIONS COMMISSION  
EXPERIMENTAL  
RADIO STATION CONSTRUCTION PERMIT  
AND LICENSE**

EXPERIMENTAL

(Nature of Service)

XT MO

(Class of Station)

WL2XPO

(Call Sign)

0955-EX-CN-2020

(File Number)

NAME Space Exploration Holdings, LLC

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications in accordance with the program of experimentation described by the licensee in its application for license.

Operation: In accordance with Sec. 5.3(j) of the Commission's Rules

Station Locations

(1) MOBILE: United States, territories and territorial waters: Airborne 51,000 ft. MSL

Frequency Information

MOBILE: United States, territories and territorial waters: Airborne 51,000 ft. MSL

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
14000-14500 MHz	MO	62M5D7W	4.06 W (Output Power)	0.001 %

Special Conditions:

- (1) The occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (2) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (3) Licensee is authorized to conduct tests on five SpaceX UTA-201 earth station aboard aircraft (ESAA) in the 14.0-14.5 GHz frequency band via SpaceX's NGSO satellites.
- (4) POINT OF COMMUNICATION: Space Exploration Technologies Corp. ("SpaceX")'s Ku-band non-geostationary- orbit (NGSO) satellites (S2983/S3018).
- (5) POINT OF COMMUNICATION: Space Exploration Technologies Corp. ("SpaceX")'s Ku-band non-geostationary- orbit (NGSO) satellites (S2983/S3018).

This authorization effective June 04, 2021 and  
will expire 3:00 A.M. EST June 01, 2023

**FEDERAL  
COMMUNICATIONS  
COMMISSION**



**Special Conditions:**

- (6) ESAA in aircraft on the ground must not transmit at elevation angles less than three degrees. There is no minimum angle of antenna elevation for ESAA while airborne.
- (7) ESAA's operations authorized pursuant to this license are operations by U.S.-registered aircraft.
- (8) ESAA authorized herein must not be used to provide air traffic control communications.
- (9) The ESAA must be self-monitoring and, should a condition occur that causes it to exceed EIRP, EIRP density or EIRP mask limits, the ESAA will automatically cease transmissions within 100 milliseconds and not resume transmissions until the condition that caused the experimental ESAA to exceed those limits is corrected.
- (10) Operations of the authorized ESAA are subject to the footnote NG527A(c) of Section 2.106 of the Commission rules. In the band 14.0-14.5 GHz (Earth-to-space), ESAA authorized to communicate with SpaceX's non-geostationary satellites must not cause unacceptable interference to, or claim protection from, geostationary-satellite networks.
- (11) Operations of the authorized ESAA operating in the 14-14.5 GHz band must be in compliance with the following additional conditions:
  - a. Licensee's ESAA must employ a tracking algorithm that is resistant to capturing and tracking adjacent satellite signals, and each station must be capable of inhibiting its own transmission in the event it detects unintended satellite tracking.
  - b. Licensee's ESAA must be monitored and controlled by a ground-based network control and monitoring center. Such stations must be able to receive "enable transmission" and "disable transmission" commands from the network control center and must cease transmission immediately after receiving a "parameter change" command until receiving an "enable transmission" command from the network control center. The network control center must monitor operation of each earth station to determine if it is malfunctioning, and each earth station must self-monitor and automatically cease transmission on detecting an operational fault that could cause harmful interference to a fixed satellite service network.
  - c. Licensee must maintain a point of contact available 24 hours per day, seven days per week, with the authority and ability to terminate operations authorized herein, for discussing interference concerns with other licensees, and must submit a letter to be included in its license file with the name and telephone number of the point of contact prior to commencing operation.
- (12) Upon notification from the FCC, operation on this assignment is subject to immediate cessation, if it causes harmful interference to Blossom Pt., MD, White Sands, NM, GRGT, Guam assignments.